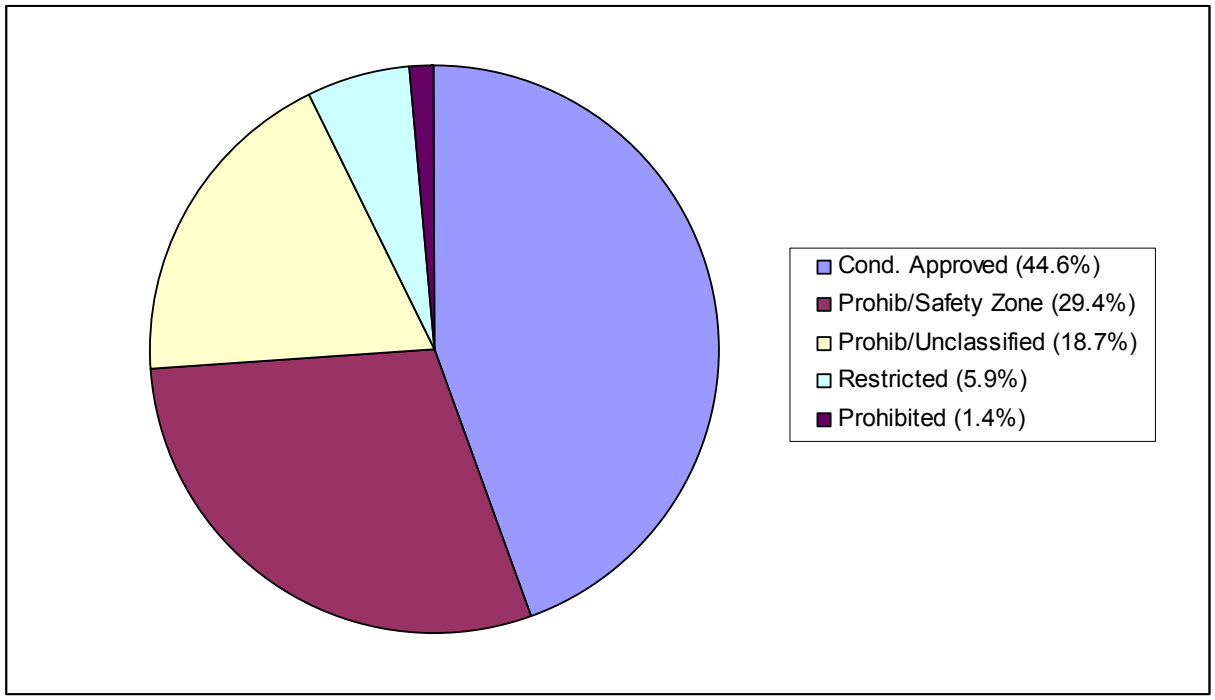
CLASSIFICATION SUMMARY

Summary of 2005 Classifications

A summary of estuarine acreage, grouped by classification in 2005, is given in Figure 14. Of the 11,502 acres of estuarine waters, 44.6 percent are open for harvesting (46.6 in 2004, 48.5 in 2003, 38.4 percent in 2002), while 36.7 percent (29.4 percent in 2004, 22.9 percent in 2003, 18.1 percent in 2002) are closed because of identified water quality problems or proximity to wastewater treatment plant outfalls and marinas. The establishment of new Prohibited/Safety Zone areas in the Upper Piscataqua River, Upper Little Bay, and Lower Little Bay account for most of the increase. The remaining 18.7 percent (24 percent in 2004, 28.6 percent in 2003, 43.6 percent in 2002) is currently unclassified. DES intends to reduce the unclassified area to approximately 15 percent by the end of 2006.

Figure 14: 2005 Estuarine Shellfish Water Classifications

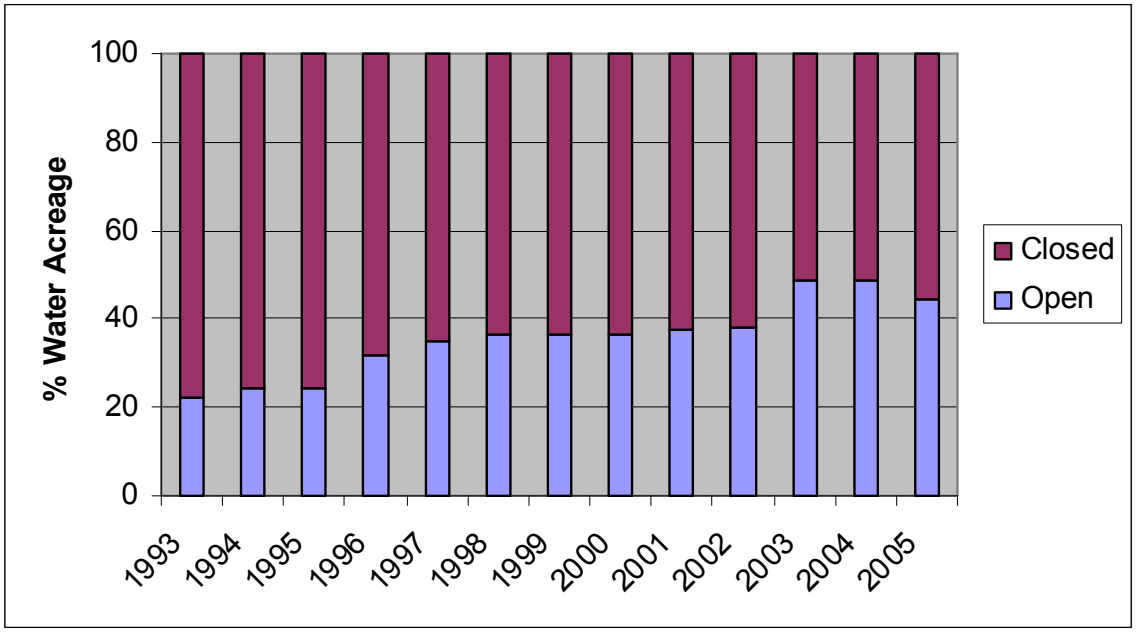


Status and Trends of Acres Open for Harvest

Since 1993, a great deal of effort has been focused on opening shellfish beds for harvesting. The most recent opening involved approximately 275 acres on the Bellamy River in the fall of 2005. Since DES was given responsibility for classifying shellfish waters in 1999, over 600 acres of previously closed estuarine waters, and nearly 40,000 acres of coastal waters, have been reopened for harvesting.

Despite the overall success, the actual acreage of estuarine waters open for harvest has decreased in recent years (Figure 15). Nearly 190 acres were closed in the vicinity of several small tributaries to Great Bay because of water quality concerns, all of which are under active investigation. Approximately 520 acres were permanently closed in two areas of Little Bay to eliminate bay-wide seasonal closures relating to boat sewage risk. Although this management action reduced the acreage open to harvesting, the elimination of area-wide seasonal closures actually increased harvesting opportunities by increasing the number of open days for all other areas.

Figure 15: Trends in Estuarine Shellfish Water Openings, 1993-2005



Open/Closed Acre-Days (by Area)

While tracking the number of acres of shellfish waters is useful in measuring progress to open shellfish waters, it does not give a completely accurate picture of how often shellfish waters are actually open for harvesting. Nearly all shellfish waters are subject to temporary closures due to rainfall conditions, wastewater treatment plant upsets, and other factors. A more accurate measure of how frequently the shellfish areas are open for harvesting is to compare the number of days the flats *were* open to the number of days the flats *could be* open.

For this analysis, all growing waters listed in Appendix 1 were categorized as a softshell clam area or an oyster area. Clam areas in 2005 could be open for a total of 40 days (Saturdays for the clamming season, defined by New Hampshire Fish and Game as the day after Labor Day to end of May), while oyster areas in 2005 could be open for a total of 303 days (all days of the week for the oystering season, defined by New Hampshire Fish and Game as all months except July and August. Note that the F&G ban on oyster harvesting through winter ice is not considered in the 303 day figure due to year-to-year variations in the spatial and temporal extent of ice cover). By multiplying these numbers by the acreage values for each growing area and summing the total, a

total possible acre-day value is derived. DES Shellfish Program records for the harvesting season were then used to determine the actual number of open days for each growing area, and similar calculations were performed to determine total actual acre-days open. For all acres of estuarine growing waters, there were 1,761,747 possible open acre-days. The actual number of open acre-days was 774,934, or 40 percent of the total (a decrease over the 52 percent figure calculated for 2004). There were several reasons for the decrease, but perhaps the most important was the very wet spring and fall of 2005. Several heavy rainfall events kept many areas closed for extended periods of time. In some cases these rainfall events led to sewage overflows from municipal wastewater plants and/or sewage collection infrastructure, which exacerbated the closures. About three percent of the 60 percent closed acre-day statistic can be attributed to three new closed areas in Great Bay, which took effect at the beginning of 2005. Calculations for selected open areas (Hampton/Seabrook, Great Bay, Little Bay, and Little Harbor) are presented in Table 14.

Table 14: Percent Open Acre-Days for the Conditionally Approved Sections of Hampton/Seabrook, Great Bay, Little Bay, and Little Harbor for Calendar Year 2005

Area	Water Acres (conditionally approved only)	Possible # of Open Days	Actual # of Open Days	Possible Acre-Days Open	Actual Acre-Days Open	%Actual Acre-Days Open
Hampton/Seabrook (clam)	481	40	15	19231	7212	37.5
Great Bay (oyster)	2850	303	253	863482	720991	83.5
Little Bay (clam)*	1323	40	9-18			53-63
Little Harbor (clam)	198	40	15	7919	2970	37.5

*Little Bay Classification was amended in July 2005 to include some new permanently prohibited acreage and to eliminate seasonal closures. Different areas had differing numbers of acreage and days open.

CONCLUSIONS AND WORK FOR 2006

The DES Shellfish Program has responsibility for classifying the shellfish growing waters of the State of New Hampshire. Of the 11,502 acres of estuarine waters, 81 percent are classified, while 19 percent are unclassified. On an acreage-only basis, 44.6 percent are currently open for harvesting, while on an acre-day basis 40 percent were open in 2005, down from 52 percent in 2004 because of an unusually high number of heavy rainfall and sewage overflow events. All of the 42,108 acres of Atlantic coastal waters are classified, with 93.3 percent of all acres open for harvesting.

One of the most severe episodes of Paralytic Shellfish Poisoning in recent history began in early May, resulting in closure of offshore waters for 85 days (May 5 – July 26), and nearshore Atlantic waters for 65 days (May 19 – July 21). Nearshore harvesting of surf clams was closed on May 19, and remained closed until December because of persistently high toxin levels, coupled with a series of unusually heavy fall rains.

There was an unusually large number of heavy rainfall events in both spring and fall in 2005, some of which caused sewage overflows from municipal wastewater treatment facilities and/or sewage collection infrastructure. Area-wide closures occurred in late March/early April, as well as in May. A four-inch rainstorm on October 8, 2005 caused an area wide closure, which was prolonged by several more large rainfalls and associated sewage overflows in October, November, and December.

Routine water sampling data collected over the last several years, including the nearly 650 samples collected during the course of 47 sampling trips in 2005, support the current classifications of all waters currently open for harvesting. New sanitary surveys for Little Bay and the Bellamy River were completed, resulting in new areas open for harvesting. Sanitary survey work in 2006 will focus on completing projects in the Upper Piscataqua River, Cocheco River, and Salmon Falls River, as well as in Hampton/Seabrook Harbor. Work to classify the Lower Piscataqua River will begin in 2006 with a dye/dilution study of the Kittery, Maine wastewater treatment facility. Additional studies and effort will be necessary to complete the classification of the Lower Piscataqua, but much of this work will extend beyond 2006.